

Title (en)

METHOD AND MACHINE FOR TREATING SMALL OBJECTS

Title (de)

VERFAHREN UND VORRICHTUNG ZUR BEHANDLUNG KLEINER GEGENSTÄNDE

Title (fr)

PROCÉDÉ ET DISPOSITIF POUR LE TRAITEMENT DE PETITS OBJETS

Publication

EP 3121308 A1 20170125 (EN)

Application

EP 16179641 A 20160715

Priority

IT UB20152328 A 20150720

Abstract (en)

Method for the decoration of small three-dimensional objects (1, 1 a) comprising the steps of: providing a semi-finished three-dimensional object (2) to be treated comprising a support (10); by means of physical vapor deposition (PVD), realizing on at least one surface (5) of said support (10) a metallization layer (12) comprising a three-dimensional figure (15, 15a), said three-dimensional figure (15, 15a) comprising a plurality of reliefs and/or recesses (20, 21). A three-dimensional impression (16, 16a) is provided on at least one surface (5) of said support, comprising a plurality of projections and/or cavities (18, 19), for which the metallization layer realized by means of the PVD treatment presents a three-dimensional figure (15, 15a), comprising a plurality of reliefs and/or recesses (20, 21) respectively in correspondence of said projections and cavities (18, 19). The three-dimensional impression (16, 16a) is obtained by means of a laser marking treatment.

IPC 8 full level

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CPC (source: EP US)

B23K 26/0006 (2013.01 - US); **B23K 26/352** (2015.10 - US); **B23K 26/355** (2018.07 - EP US); **B29C 59/02** (2013.01 - US); **C23C 14/02** (2013.01 - EP US); **C23C 14/185** (2013.01 - EP US); **C23C 14/22** (2013.01 - US); **B23K 2103/42** (2018.07 - EP US)

Citation (applicant)

- US 2012234670 A1 20120920 - PEREGO LUCIANO [IT]
- US 2014034482 A1 20140206 - PEREGO LUCIANO [IT]

Citation (search report)

- [XII] DE 102011110116 A1 20130221 - MARQUARDT GMBH [DE]
- [I] US 2012040140 A1 20120216 - AN JIN SOO [KR], et al
- [XII] US 2015173202 A1 20150618 - ANOSOV VASILY SERGEEVICH [RU], et al
- [A] US 2012234670 A1 20120920 - PEREGO LUCIANO [IT]

Cited by

EP3441148A1; US2019047006A1; IT201700092402A1

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